

Appl. No. 09/980,797
Atty. Docket No. 7656M
Amdt. dated March 9, 2004
Reply to Office Action of June 26, 2003
Customer No. 27752

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

(Canceled) 1-25

(Currently Amended) 26. Clear, or translucent liquid fabric softener composition comprising:

A. from about 1% to about 80% by weight of the composition, of polyquaternary ammonium fabric softener active which either has a phase transition temperature in the presence of less than about 5% organic solvent or water of less than about 50°C or which has no significant endothermic phase transition in the region -50°C to 100°C, said active being in a bilayer;

B. an effective amount of stabilizer for maintaining said composition clear or translucent comprising:

- (1) an effective level of less than 7.5% organic solvent;
- (2) an effective amount of bilayer modifier; and
- (3) mixtures thereof;

C. optional additional fabric softener active and/or cationic charge booster; the balance water.

(Currently Amended) 27. The composition of Claim 26 wherein said polyquaternary ammonium [[salt]] fabric softener active has a phase transition temperature in the presence of less than about 5% organic solvent or water of less than about 35°C and is present at a level of from about 5% to about 75% by weight of the composition; and wherein said organic solvent, in the absence of an effective amount of bilayer modifier, comprises principal solvent having a ClogP of from about -2.0 to about 2.6 at a level of at least about 0.25% and ~~less than about 13.5%~~ by weight of the composition.

(Currently Amended) 28. The composition of Claim 26 wherein said polyquaternary ammonium [[salt]] fabric softener active has a phase transition temperature in the presence of less than about 5% organic solvent or water of less than about 20°C and is present at a level of

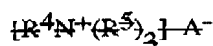
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from about 15% to about 70% by weight of the composition; and wherein said organic solvent, in the absence of an effective amount of bilayer modifier, comprises principal solvent having a ClogP of from about -1.7 to about 1.6 at a level of at least about 0.25% by weight of the composition and less than about 10% by weight of the composition.

(Currently Amended) 29. The composition of Claim 26 wherein said polyquaternary ammonium [[salt]] fabric softener active has a phase transition temperature in the presence of less than about 5% organic solvent or water of less than about 10°C and is present at a level of from about 19% to about 65% by weight of the composition; and wherein said organic solvent, in the absence of an effective amount of bilayer modifier, comprises principal solvent having a ClogP of from about -1.0 to about 1.0 at a level of at least about 0.5% by weight of the composition and less than about [[7.5%]] 5% by weight of the composition.

(Previously Presented) 30. The composition of Claim 26 containing bilayer modifier.

(Canceled) 31. ~~The composition of Claim 30 wherein said bilayer modifier comprises single long chain quaternary ammonium compound of the general formula:~~



~~wherein R⁴ is C₈-C₂₂ alkyl or alkenyl group;
 each R⁵ is a C₁-C₆ alkyl or substituted alkyl group, benzyl group, hydrogen, polyethoxylated chain with from about 2 to about 50 oxyethylene units; and
 A⁻ is defined as a fabric softener compatible counterion.~~

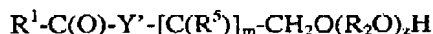
(Currently Amended) 32. The composition of Claim 30 or Claim 31 wherein said bilayer modifier comprises from [[about 0.25%]] greater than 1% to about 20% by weight of the composition of polar and/or non-polar hydrophobic oil.

(Previously Presented) 33. The composition of Claim 30 wherein said bilayer modifier comprises nonionic surfactant containing from about 6 to about 22 carbon atoms in a hydrophobic chain ethoxylated with from about 2 to about ≤ 50 ethoxy groups.

(Previously Presented) 34. The composition of Claim 30 wherein said bilayer modifier comprises nonionic surfactants with bulky head group selected from:

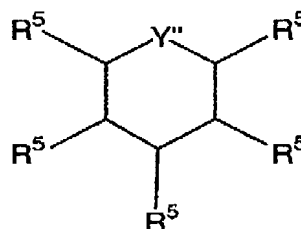
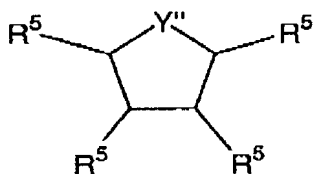
1. surfactants having the formula

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wherein R^1 is selected from the group consisting of saturated or unsaturated, primary, secondary or branched chain alkyl or alkyl-aryl hydrocarbons; said hydrocarbon chain containing from about 6 to about 22 carbon atoms; Y' is selected from the following groups: $-O-$; $-N(A)-$; and/or mixtures thereof; A is selected from the following groups: H ; R^1 ; $-(R^2-O)_x-H$; $-(CH_2)_xCH_3$; phenyl, or substituted aryl, wherein $0 \leq x \leq$ about 3 and z is from about 5 to about 30; each R^2 is selected from the following groups or combinations of the following groups: $-(CH_2)_n-$ wherein n is from about 1 to about 4 and/or $-[CH(CH_3)CH_2]-$; and each R^5 is selected from the following groups: $-OH$; and $-O(R^2O)_z-H$; and m is from about 2 to about 4;

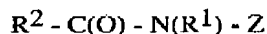
2. surfactants having the formulas:



wherein $Y'' = N$ or O ; and each R^5 is selected independently from the following:

$-H$, $-OH$, $-(CH_2)_xCH_3$, $-O(OR^2)_z-H$, $-OR^1$, $-OC(O)R^1$, and $-CH(CH_2-(OR^2)_z-H)-CH_2-(OR^2)_z-C(O)R^1$, x and R^1 are as defined above and $5 \leq z$, z' , and $z'' \leq 20$;

3. polyhydroxy fatty acid amide surfactants of the formula:



wherein: each R^1 is H , C_1 - C_4 hydrocarbyl, C_1 - C_4 alkoxyalkyl, or hydroxyalkyl; and R^2 is a C_5 - C_{31} hydrocarbyl moiety; and each Z is a polyhydroxyhydrocarbyl moiety having a linear hydrocarbyl chain with at least 3 hydroxyls directly connected to the chain, or an ethoxylated derivative thereof; and each R' is H or a cyclic mono- or poly-saccharide, or alkoxyated derivative thereof; and

4. mixtures thereof.

(Currently Amended) 35. The composition of Claim [[22]] 26, further comprising an effective amount of an additional softener active.

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(Previously Presented) 36. The composition of Claim 35 wherein said additional softener active has a single quaternary moiety and two long hydrophobic moieties.

(Canceled) 37-41

(Currently Amended) 42. The method of determining the stability of aqueous clear or translucent softening composition according to Claim 26 comprising polyquaternary ammonium softener compound comprising subjecting said composition to high-speed centrifugation and measuring the % volume of secondary phase which separates.

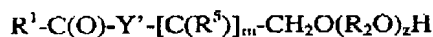
(New) 43. Clear, or translucent liquid fabric softener composition comprising:

A. from about 1% to about 80% by weight of the composition, of polyquaternary ammonium fabric softener active which either has a phase transition temperature in the presence of less than about 5% organic solvent or water of less than about 50°C or which has no significant endothermic phase transition in the region -50°C to 100°C, said active being in a bilayer;

B. an effective amount of stabilizer for maintaining said composition clear or translucent comprising an effective amount of bilayer modifier, wherein said bilayer modifier is chosen from:

- (i) from greater than 1% to about 20% by weight of the composition of polar and/or non-polar hydrophobic oil;
- (ii) nonionic surfactant containing from about 6 to about 22 carbon atoms in a hydrophobic chain ethoxylated with from about 2 to about ≤ 50 ethoxy groups
- (iii) nonionic surfactants with bulky head group selected from:

- 1. surfactants having the formula

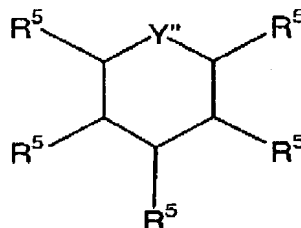
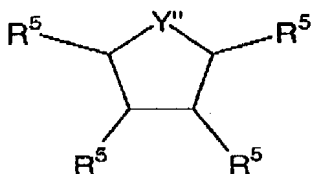


wherein R^1 is selected from the group consisting of saturated or unsaturated, primary, secondary or branched chain alkyl or alkyl-aryl hydrocarbons; said hydrocarbon chain containing from about 6 to about 22 carbon atoms; Y' is selected from the following groups: $-O-$; $-N(A)-$; and/or mixtures thereof; A is selected from the following groups: H ; R^1 ; $-(R^2-O)_x-H$; $-(CH_2)_xCH_3$; phenyl, or substituted aryl, wherein $0 \leq x \leq$ about 3 and z is from about 5 to about 30; each R^2 is selected from the following groups or combinations of the following groups: $-(CH_2)_n-$

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wherein n is from about 1 to about 4 and/or $-\text{CH}(\text{CH}_3)\text{CH}_2-$; and each R^5 is selected from the following groups: $-\text{OH}$; and $-\text{O}(\text{R}^2\text{O})_x-\text{H}$; and m is from about 2 to about 4;

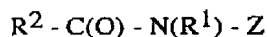
2. surfactants having the formulas:



wherein $\text{Y}'' = \text{N}$ or O ; and each R^5 is selected independently from the following:

$-\text{H}$, $-\text{OH}$, $-(\text{CH}_2)_x\text{CH}_3$, $-\text{O}(\text{OR}^2)_x-\text{H}$, $-\text{OR}^1$, $-\text{OC}(\text{O})\text{R}^1$, and $-\text{CH}(\text{CH}_2-(\text{OR}^2)_{z'}-\text{H})-\text{CH}_2-(\text{OR}^2)_x-\text{C}(\text{O})\text{R}^1$, x and R^1 are as defined above and $5 \leq z, z', \text{ and } z'' \leq 20$;

3. polyhydroxy fatty acid amide surfactants of the formula:



wherein: each R^1 is H , C_1 - C_4 hydrocarbyl, C_1 - C_4 alkoxyalkyl, or hydroxyalkyl; and R^2 is a C_5 - C_{31} hydrocarbyl moiety; and each Z is a polyhydroxyhydrocarbyl moiety having a linear hydrocarbyl chain with at least 3 hydroxyls directly connected to the chain, or an ethoxylated derivative thereof; and each R^1 is H or a cyclic mono- or poly-saccharide, or alkoxyated derivative thereof; and

4. mixtures thereof.

(New) 44. The composition of Claim 43 wherein said polyquaternary ammonium [[salt]] fabric softener active has a phase transition temperature in the presence of less than about 5% organic solvent or water of less than about 10°C and is present at a level of from about 19% to about 65% by weight of the composition.

(New) 45. The composition of Claim 43, further comprising an effect level of organic solvent.

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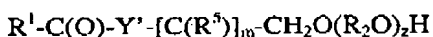
(New) 46. The composition of Claim 45, further comprising an effective level of less than 7.5% of said organic solvent.

(New) 47. The composition of Claim 43 or Claim 46 wherein said bilayer modifier comprises from greater than 1% to about 20% by weight of the composition of polar and/or non-polar hydrophobic oil.

(New) 48. The composition of Claim 43 or Claim 46 wherein said bilayer modifier comprises nonionic surfactant containing from about 6 to about 22 carbon atoms in a hydrophobic chain ethoxylated with from about 2 to about ≤ 50 ethoxy groups.

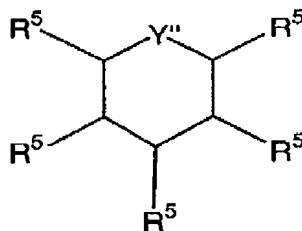
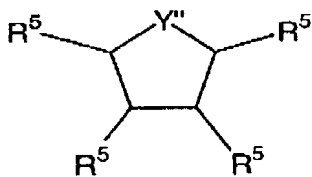
(New) 49. The composition of Claim 43 or Claim 46 wherein said bilayer modifier comprises nonionic surfactants with bulky head group selected from:

1. surfactants having the formula



wherein R^1 is selected from the group consisting of saturated or unsaturated, primary, secondary or branched chain alkyl or alkyl-aryl hydrocarbons; said hydrocarbon chain containing from about 6 to about 22 carbon atoms; Y' is selected from the following groups: $-O-$; $-N(A)-$; and/or mixtures thereof; A is selected from the following groups: H ; R^1 ; $-(R^2-O)_x-H$; $-(CH_2)_xCH_3$; phenyl, or substituted aryl, wherein $0 \leq x \leq$ about 3 and z is from about 5 to about 30; each R^2 is selected from the following groups or combinations of the following groups: $-(CH_2)_n-$ wherein n is from about 1 to about 4 and/or $-[CH(CH_3)CH_2]-$; and each R^5 is selected from the following groups: $-OH$; and $-O(R^2O)_x-H$; and m is from about 2 to about 4;

2. surfactants having the formulas:

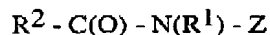


wherein $Y'' = N$ or O ; and each R^5 is selected independently from the following:

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-H, -OH, $-(CH_2)_xCH_3$, $-O(OR^2)_z-H$, $-OR^1$, $-OC(O)R^1$, and $-CH(CH_2-(OR^2)_{z'}-H)-CH_2-(OR^2)_{z''}-C(O)R^1$, x and R^1 are as defined above and $5 \leq z$, z' , and $z'' \leq 20$;

3. polyhydroxy fatty acid amide surfactants of the formula:



wherein: each R^1 is H, C_1 - C_4 hydrocarbyl, C_1 - C_4 alkoxyalkyl, or hydroxyalkyl; and R^2 is a C_5 - C_{31} hydrocarbyl moiety; and each Z is a polyhydroxyhydrocarbyl moiety having a linear hydrocarbyl chain with at least 3 hydroxyls directly connected to the chain, or an ethoxylated derivative thereof; and each R' is H or a cyclic mono- or poly-saccharide, or alkoxylated derivative thereof; and

4. mixtures thereof.